



Dart Aerospace Ltd.
1270 Aberdeen St
Hawkesbury, ON
K6A 1K7
Canada

Tel (613) 632-5200
Fax 613 632-5246

RBEL135M-2901-101
Job Sheet 188486



Part No: RBEL135M-2901-101

Job Qty: 1 pcs

Part Name: Hydraulic Pump Drive Tool (1 unit)



Part Weight: 0 lbs

Status: New

Priority: Medium

Job Created: 1/10/19

Job Tracking No:

Due Date: 1/21/19

Created By: Marie Lajeunesse

Type: SOLD

Description:

Note: DWG RBEL135M-2901-101 Rev. A IPP Rev. A 18.09.10 New issue DP Verify DD

Ship Via:

Bill of Materials

Job Routing

Op No	Operation	Qty	Start Date	Due Date	Standard		Workcenter/Supplier		Sign-off
					Setup Hrs	Run Hrs	Workcenter / Supplier	Lead Time	
111	Small Fab - 1	1 pcs	1/21/19	1/21/19	0.00	1.00	Small Fab - 1		
							Small Fab - 2		HLL
							Small Fab - 3		
							Small Fab - 4		
							Small Fab - 5		
							Small Fab - 6		
							Small Fab - 7		
120	QC 5	1 pcs	1/21/19	1/21/19	0.00	0.00	QC 5 - 10		
							QC 5 - 12		
							QC 5 - 17		
							QC 5 - 18		
							QC 5 - 19		
							QC 5 - 22		
							QC 5 - 24		
							QC 5 - 3		DAS
							QC 5 - 38		38
							QC 5 - 42		9-89
							QC 5 - 43		
							QC 5 - 49		
							QC 5 - 51		
							QC 5 - 58		
							QC 5 - 68		
							QC 5 - 9		
							QC 5 - 50		
							QC 5 - 30		
130	Packaging 3-1 - Stock - B4B	1 pcs	1/21/19	1/21/19	0.00	0.00	Packaging 3 - 1 - B4B		
							Packaging 3 - 2 - B4B		DAS
							Packaging 3 - 3 - B4B		21
							Packaging 3 - 4 - B4B		9-89
							Packaging 3 - 5 - B4B		JAN 30 2019
							Packaging 3 - 6 - B4B		
							Packaging 3 - 7 - B4B		



Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
CANADA
TEL.: 1 613 632-5200
Email: sales@dartaero.com
www.dartaerospace.com

Container No: S149254



Part: RBEL135M-2901-101

Job No: 188486

Serial No/Batch: S149254

Revision: A

Inspector:

Exp Date:

Instructions:

Date: 01/30/19

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval		
Description Work Order Deviation				Disposition				Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐				
Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐				
Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐				
Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐				
Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐				
Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐				
Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐				
Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐				
LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐				
Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐				
Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____							
Misidentified ☐	Past Due ☐								

					Packaging 3 - 8 - B4B	
					Packaging 3 - 9 - B4B	
					Packaging 3 - 10 - B4B	
					Packaging 3 - 11 - B4B	
					Packaging 3 - 12 - B4B	
					Packaging 3 - 13 - B4B	
					Packaging 3 - 14 - B4B	
					Packaging 3 - 15 - B4B	
					Packaging 3 - 16 - B4B	
					Packaging 3 - 17 - B4B	
					Packaging 3 - 18 - B4B	
					Packaging 3 - 19 - B4B	
					Packaging 3 - 20 - B4B	
					Packaging 3 - 21 - B4B	
					Packaging 3 - 22 - B4B	
					Packaging 3 - 23 - B4B	
					Packaging 3 - 24 - B4B	
					Packaging 3 - 25 - B4B	
					Packaging 3 - 26 - B4B	
					Packaging 3 - 27 - B4B	
					Packaging 3 - 28 - B4B	
					Packaging 3 - 29 - B4B	
					Packaging 3 - 30 - B4B	
					Packaging 3 - 31 - B4B	
					Packaging 3 - 32 - B4B	
					Packaging 3 - 33 - B4B	
					Packaging 3 - 34 - B4B	
					Packaging 3 - 35 - B4B	
					Packaging 3 - 36 - B4B	
140 QC 21 - FG	1 pcs	1/21/19	0.00 0.00	QC 21 - FG - 21		DAS 21 9:55 JAN 30 2019
				QC 21 - FG - 70		

Part Op 111 - 1-Engrave placard RB41011 using MARKTRONIC engraver. 2-Transfer drill Dart placard RB41011 into Pelican Descriptions: case APP-1605-E 3-Deburr holes and remove chips from case. 4-Rivet Dart placard to Pelican case 5-Pack case as per DWG.

120 - (QC5- Inspect part completeness to step on W/O)

130 - (Identify as per dwg & Stock Location: _____)

140 - (QC21- Final Inspection - Work Order Release)

Job BOM

Part / Item	Component Name	Quantity	Operation	Container
97524A032	Sealing Blind Rivet	4 Ea (4 ea)	111-Small Fab - 1	5113449
APP-1605-E	Case	1 Ea (1 ea)	111-Small Fab - 1	5134943
RB41011	Dart Tooling Placard, Aluminum	1 Ea (1 ea)	111-Small Fab - 1	5021040
RBEL135M-2901-101-00	Hydraulic Pump Drive Tool	1 pcs (1 ea)	111-Small Fab - 1	5149181
RBEL135M-2901-101-39	Poly-V Groove Belt	1 Ea (1 ea)	111-Small Fab - 1	511049
RBEL135M-2901-101-57	Bottom Tool Cushion use in case APP-1605-E	1 Ea (1 ea)	111-Small Fab - 1	5134945
RBEL135M-2901-101-59	Top Foam use in case APP-1605-E	1 Ea (1 ea)	111-Small Fab - 1	5134944

Job Allocations

Operation	Component Part	Required	Inventory	Allocated
111-Small Fab - 1	97524A032	4	474	0
	APP-1605-E	1	2	0
	RB41011	1	492	0
	RBEL135M-2901-101-00	1	0	0
	RBEL135M-2901-101-39	1	3	0
	RBEL135M-2901-101-57	1	1	0
	RBEL135M-2901-101-59	1	1	0

Part Specifications

Specifications could not be found.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QSI042) Approval 		
Description Work Order Deviation				Disposition					
								Completed By	
								Lead hand / Supervisor Approval Verification	
								QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐	OTHER : _____			

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐																																																													
Date : _____		Step #: _____		QTY Effective : _____			MRB (QSI042) Approval																																																										
Description Work Order Deviation				Disposition				Completed By																																																									
								Lead hand / Supervisor Approval Verification																																																									
								QC / QA Coordinator Approval																																																									
Root Cause		FAULT CATEGORY																																																															
Environment ☐	No Re-verification ☐	Pressure/Forced ☐	Temperature/Cure ☐	Power Loss/Surge ☐	Positioned Wrong ☐	Design ☐	Operator ☐	Bending ☐	Set-up ☐	Folio/Program ☐	Outside Dimensions ☐	Doc/Data ☐	Offset/Setup ☐	Centre Not Concentric ☐	BOM/Route ☐	Grain ☐	Over/Under tolerance ☐	Equip/Tooling ☐	Supplier ☐	Cracks ☐	Broken/Damage/Defect ☐	Weld ☐	Part Incorrect ☐	Handling/Pre ☐	Training ☐	Crimp/Kink/Ripple/Wave ☐	Inspection Incomplete/Unqualified ☐	Wrong Stock Pulled ☐	Part Lost/Missing ☐	Material ☐	Use for Testing ☐	Cuffs ☐	Contamination ☐	Out of Sequence ☐	Part Moved ☐	Internal Transport ☐	Poor Information ☐	Crushing ☐	Countersink ☐	Off-set ☐	Drawing ☐	Tribal Knowledge ☐	Rushing ☐	Heat Treat ☐	Cut Too Short ☐	Mislabeled ☐	Finish ☐	LOA ☐	Product Improvement ☐	Wave/Twist in Tube ☐	Instructions Incomplete/Unclear ☐	Fit/Function ☐	Misread ☐	Substation ☐	Process Improvement ☐	Marks/Chatter ☐	Drill Holes ☐	Misaligned/off center ☐	Turning Sequence ☐	Past Expiry Date ☐	Manufacturing Process ☐	OTHER : _____			
Misidentified ☐	Past Due ☐																																																																

This drawing, specifications, and concepts contained here in are the sole property of Dart Aerospace, and may not be reproduced or used in any fashion without the prior written permission of Dart Aerospace, Haverhill, MA.

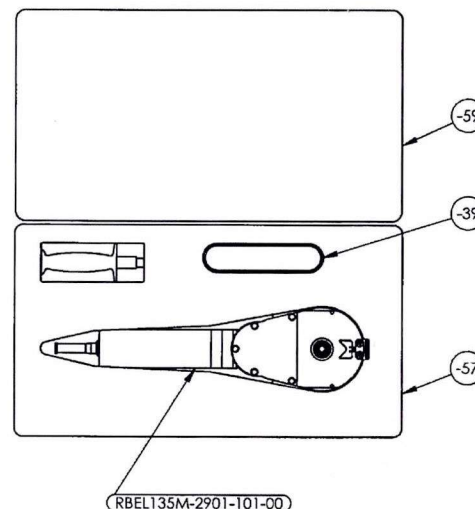
REVISIONS							
REV	ECN	DESCRIPTION			DATE	INITIAL	APPROVED
A	20	220 VOLT TOOL			8/27/2018	KK	ML

18-790

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 188486 MLJ

19-01-10

ASSY QTY	ASSY QTY	B/O	Part #	UNIT QTY	Description	Material	B/O INFORMATION OR SPECIFICATIONS	PG.
	X		-00	1	HYDRAULIC PUMP DRIVE TOOL			2
	1		-01		CASE	6061		3
	1		-03		BOTTOM COVER	6061		4
	1		-05		TOP COVER	6061		5
	1		-07		GEARED PULLEY	1018/1020 CR		6
	1		-09		DRIVE PULLEY	6061		7
	1		-11		CLAMP TOP	A36/1018/1020 HR		8
	1		-13		MOTOR CLAMP	6061		9
	1		-14		COLLAR	6061		10
	1		-15		CLAMP	6061		11
	1		-17		THUMB SCREW	S.S.	M8 X 1.25 X 30mm (J.W. WINCO #8N30F48S) MODIFIED	12
	2		-19		SLIDE GUIDE	1018/1020 CR		13
	2		-21		SLIDE	1018/1020 CR		14
	1		-23		PIN	303/304		15
	2	B/O	-25		THREADED KNOB	M5 X .08 X 16mm (J.W. WINCO #5N16DD1)		2
	2	B/O	-27		BEARING	6903R/U (MCMaster-Carr #5972K259)		2
	2	B/O	-29		FLAT HEAD MACHINE SCREW	STEEL	M4 X 0.7 X 10mm (MCMaster-Carr #91420A220)	2
	2	B/O	-31		FLAT HEAD MACHINE SCREW	STEEL	M4 X 0.7 X 8mm (MCMaster-Carr #91420A218)	2
	10	B/O	-33		HEX HEAD CAP SCREW	STEEL	M6 X 1 X 10mm (MCMaster-Carr #91280A322)	2
	13	B/O	-35		FLAT WASHER	STEEL	Ø6mm (MCMaster-Carr #91146A250)	2
	1	B/O	-37		EXTERNAL SNAP RING	S.S.	Ø17mm (SHAFT) (MCMaster-Carr #90967A210)	2
	1	B/O	-39	1	POLY-V GROOVE BELT	NEOPRENE	180J4 (MCMaster-Carr #9003K41)	2
	1	B/O	-42		FLAT WASHER	STEEL	Ø5/8 X .063 INCH (AIRCRAFT SPRUCE #AN920-1016)	2
	1	B/O	-43		SMALL ANGLE GRINDER MOTOR	MTLWAUKEE #AGV15-175XE		2
	1	B/O	-45		ARROW EMBLEM	VINYL	1/16 X 1/2 X 2-1/2 (SIGNS NOW)	16
	1	B/O	-47		HEX HEAD CAP SCREW	STEEL	M5 X 1.25 X 25mm (MCMaster-Carr #91280A534)	2
	1	B/O	-49		FLAT WASHER	STEEL	Ø8mm (MCMaster-Carr #91146A270)	2
	2	B/O	-51		FLAT HEAD MACHINE SCREW	STEEL	M6 X 1 X 25mm (MCMaster-Carr #91420A430)	2
	2	B/O	-53		DOWEL PIN	S.S.	Ø2mm X 12mm (MCMaster-Carr #91585A010)	2
	3	B/O	-54		SOCKET HEAD CAP SCREW	S.S.	M6 X 1 X 10mm (MCMaster-Carr #91292A441)	2
		B/O	-55	1	CASE	PLASTIC	PELICAN #AP11-1605-E	N/S
		B/O	-57	1	BOTTOM TOOL CUSHION	ETHAFOAM 220, BLACK	6.39 X 14.45 X 26.45 (CASE SOLUTIONS)	17
		B/O	-59	1	TOP FOAM	ETHAFOAM 220, BLACK	2.01 X 14.52 X 26.35 (CASE SOLUTIONS)	18
		B/O		1	DART PLACARD	ALUMINUM	RB41011	N/S
ASSY	20							



DART AEROSPACE	
TITLE HYDRAULIC PUMP DRIVE TOOL	
DWG NO. RBEL135M-2901-101	REV A
MAT'L STEEL	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES FRACTIONS ± 1/16 DECIMALS ± .01 ANGLES ± .5° SURFACES ± .125
FINISH SPEC	1. BREAK ALL SHARP EDGES 2. DIMENSIONAL LIMITS APPLY 3. INTERPRET ON AND TOL PER ASME Y14.5M-2009
DRAWN BY: KK	CHECKED: ML
DATE: NA	APPROVED: NA
SCALE: 1:8	DATE: 08/27/2018
SHEET 1 OF 18	